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EXAMINER	
LU, KUEN S	

ART UNIT	PAPER NUMBER
2167	

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/965,031	PACHET ET AL.	
	Examiner	Art Unit	
	Kuen S Lu	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 9-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments

1. This Action is in response to Applicants' amendments, filed on January 21, 2005. It is noted claims 1, 12-13, 15, 19 and 21 were amended, claims 7-8 were cancelled and claims 22-37 were newly added.

2. The Examiner has created a non-Final Rejection Office Action as shown next for rejecting claims 1-6 and 9-37.

3. As for the Applicant's REMARKS, filed on January 21, 2005, has been fully considered by the Examiner. For the Examiner's response, please see discussion in the section ***Response to Arguments***, following the Office Action for non-Final Rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-6 and 9-37 is rejected are rejected under 35 U.S.C. 103(a) as being unpatentable over Linden et al. (U.S. Patent 6,266,649, hereafter "Linden") in view of Sumita et al. (U.S. Patent 6,581,207, hereafter "Sumita").

As per claims 1, 22-24 and 30-31, Linden teaches the following:

"specifying a length of said sequence and at least one of said descriptors" (See col. 9, lines 34-37 and col. 15, lines 63-67 wherein Linden's similar items list consists of the N items and user can select specific category for the similar items is equivalent to

Applicant's specifying a length of said sequence and at least one of said descriptors); and

"applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with an a neighboring item in said sequence" (See Fig. 2 and col. 11, lines 4-56 wherein Linden's applying weighting values to similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with an a neighboring item in said sequence).

Linden does not specifically teaches the similarity relation techniques are based on morphological affinity and further "with which said chosen item shall be associates so as to create a morphological continuity along said sequence".

However, Sumita teaches "with which said chosen item shall be associates so as to create a morphological continuity along said sequence" (See Fig. 6 and col. 5, lines 23-49 wherein Sumita's evaluating similarity between items by using morphemic analysis techniques on program name of the items is equivalent to Applicant's with which said chosen item shall be associates so as to create a morphological continuity along said sequence).

It would have been obvious to one having ordinary skill in the art at the time of the

applicant's invention was made to combine the teaching of Sumita with Linden reference by applying morphemic analysis techniques to similar items for generating an item list of morphological continuity because both references are directed to filtering items and selecting similar items, including program names, to users, and the combined reference would have allowed the filtering system more accurately to select similar items or programs to users.

Sumita further teaches "producing said associated items as at least part of said generated

sequence, said sequence thereby having a said morphological continuity" (See Fig. 6 and col. 6, lines 23-45 wherein Sumita's morphemic analysis was conducted on similar items to calculate the similarity value of a similar item against to those in the profile is equivalent to Applicant's producing said associated items as at least part of said generated sequence, said sequence thereby having a said morphological continuity).

As per claim 2, Linden further teaches "each of said items is represented by a series of constraint variables having a domain in the database" (See col. 7, lines 16-19 and col. 11, lines 27-32 wherein Linden's titles, types, group, category and rating are represented in the database and the factors utilized in the process of filtering is equivalent to Applicant's each of said items is represented by a series of constraint variables having a domain in the database).

As per claim 3, Linden further teaches "similarity relation applying step comprises modeling each of said descriptors in a desired sequence as a constrained variable" (See Figs. 2, steps 82-88 and 5, steps 182-188 wherein Linden's similar items are retrieved from table, weighting values to the items based on different weighting variables, assigning scores to the items and sorting the items into a list is equivalent to Applicant's similarity relation applying step comprises modeling each of said descriptors in a desired sequence as a constrained variable).

As per claim 4, Linden further teaches "similarity relation applying step comprises applying a global similarity relation technique by combining individual similarity measures on all of said descriptors" (See col. 14, Table 2 and lines 44-57 wherein Linden's a global weight formula is utilized as a basis to calculate the similarity between similar items is equivalent to Applicant's similarity relation applying step comprises applying a global similarity relation technique by combining individual similarity measures on all of said descriptors).

As per claim 5, Linden further teaches "similarity-relation applying step comprises providing mathematical similarity functions" (See col. 14, Table 2 and lines 44-57 wherein Linden's a global weight formula is utilized as a basis to calculate the similarity between similar items is equivalent to Applicant's similarity-relation applying step comprises providing mathematical similarity functions).

As per claim 6, Sumita further teaches "similarity-relation applying step comprises providing similarity relations defined by given thresholds" (See Fig. 6 step D6 wherein Sumita's similarity value of a similar item is compared to a predetermined threshold is equivalent to Applicant's similarity-relation applying step comprises providing similarity relations defined by given thresholds).

As per claim 9, Linden further teaches "descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists" (See col. 8, lines 1-12 wherein Linden's popular titles are rated 1 to 5 in Bad/1, Not for me/2 to Love it/5 pairs is equivalent to Applicant's descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists).

As per claim 10, Linden further teaches "each of said descriptors is associated to a descriptor type" (See col. 8, lines 1-12 wherein Linden's popular titles are rated 1 to 5 in Bad/1, Not for me/2 to Love it/5 pairs is equivalent to Applicant's each of said descriptors is associated to a descriptor type).

As per claim 11, Linden further teaches "descriptor type comprises at least one type selected from the group consisting of Integer-Type, Taxonomy Type and Discrete-Type" (See col. 8, lines 1-12 wherein Linden's popular titles are rated in integer and discrete value types, 1 to 5 in Bad/1, Not for me/2 to Love it/5 pairs is equivalent to Applicant's

descriptor type comprises at least one type selected from the group consisting of Integer-Type, Taxonomy Type and Discrete-Type).

As per claim 12, Linden further teaches "specifying further comprises specifying a first title and a last title of said items in said sequence" (See Fig. 6, wherein Linden's "The Other Side of Midnight" and "Skinny Legs and All" are the first and last titles, respectively is equivalent to Applicant's specifying further comprises specifying a first title and a last title of said items in said sequence).

As per claim 13, Sumita further teaches "specifying further comprises specifying a morphological style of said items in said sequence" (See Fig. 6, step D2 and col. 6, lines 23-34 wherein Sumita's program names are subject to morphemic analysis is equivalent to Applicant's specifying further comprises specifying a morphological style of said items in said sequence).

As per claim 14, Linden further teaches "database comprises musical pieces" (See Fig. 6, item New wherein Linden's music recommendations is equivalent to Applicant's database comprises musical pieces).

As per claim 15, Linden further teaches "descriptors comprise titles, and said titles form a music program" (See Fig. 6 the combining display of book titles from book category and music recommendations suggest the teaching of displaying music titles

from a music program is equivalent to Applicant's descriptors comprise titles, and said titles form a music program).

As per claim 16, Linden further teaches "a general-purpose computer and a monitor for display of the generated information" (See Fig. 1, elements 34s and 32, and col. 7, lines 20-48 wherein Linden's web server, database and user computers are utilized to implement a system for on-line-cart shopping is equivalent to Applicant's a general-purpose computer and a monitor for display of the generated information).

As per claim 17, Linden further teaches "computer program product adapted to carry out the method of claim 1, when loaded into a general purpose computer" " (See Fig. 1, elements 34s and 32, and col. 7, lines 20-48 wherein Linden's web server, database and user computers are utilized to implement a system for on-line-cart shopping is equivalent to Applicant's computer program product adapted to carry out the method of claim 1, when loaded into a general purpose computer).

As per claim 18, Linden further teaches "the similarity relation is applied to obtain two contiguous items of the sequence" (See Fig. 2 and col. 11, lines 4-56 wherein Linden's applying weighting values to each similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's the similarity relation is applied to obtain two contiguous items of the sequence).

As per claim 19, Linden teaches "introducing a global continuity constraint" (See col. 7, lines 16-19 and col. 11, lines 27-32 wherein Linden's titles, types, group, category and rating are represented in the database and the factors utilized in the process of filtering is equivalent to Applicant's introducing a global continuity constraint).

Linden does not specifically teaches allowing the constraint "to compute a morphing between items of said sequence", although the constraints are being applied to calculate similarity for similar items as previously described in claims 4-6 rejections.

However, Sumita teaches evaluating similarity between items by using morphemic analysis techniques on "program name" of the items (See Fig. 6 and col. 5, lines 23-49).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Sumita with Linden reference by applying morphemic analysis techniques to similar items for generating an item list of morphological continuity because both references are directed to filtering items and selecting similar items, including program names, to users, and the combined reference would have allowed the filtering system more accurately to select similar items or programs to users.

Linden further teaches "taking as input partial information about arbitrary items in said sequence to be produced" (See Fig. 6 wherein Linden's category is input produce the list of similar items): and

"applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with a neighboring item of said sequence"

(See Fig. 2 and col. 11, lines 4-56 wherein Linden's applying weighting values to similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with an a neighboring item in said sequence is equivalent to Applicant's applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with a neighboring item of said sequence).

Sumita further teaches "with which said chosen item shall be associated. so as to create a morphological continuity along said sequence" (See Fig. 6 and col. 5, lines 23-49 wherein Sumita's evaluating similarity between items by using morphemic analysis techniques on program name of the items is equivalent to Applicant's with which said chosen item shall be associated. so as to create a morphological continuity along said sequence).

As per claim 20, Linden further teaches "a general-purpose computer and a monitor for display of the generated information" (See Fig. 1, elements 34s and 32, and col. 7, lines 20-48 wherein Linden's web server, database and user computers are utilized to implement a system for on-line-cart shopping is equivalent to Applicant's a general-purpose computer and a monitor for display of the generated information).

As per claim 21, Linden teaches the following:

"specifying a length of said sequence and at least one of said descriptors" (See col. 9, lines 34-37 and col. 15, lines 63-67 wherein Linden's similar items list consists of the N items and user can select specific category for the similar items is equivalent to Applicant's specifying a length of said sequence and at least one of said descriptors); and

"applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with a neighboring item of said sequence with which said chosen item shall be associated" (See Fig. 2 and col. 11, lines 4-56 wherein Linden's applying weighting values to similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's applying similarity relation techniques between said items appearing in said

sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with a neighboring item of said sequence with which said chosen item shall be associated).

Linden does not specifically teaches "so as to create a morphological continuity along said sequence".

However, Sumita teaches "so as to create a morphological continuity along said sequence" (See Fig. 6 and col. 5, lines 23-49 wherein Sumita's evaluating similarity

between items by using morphemic analysis techniques on program name of the items is equivalent to Applicant's so as to create a morphological continuity along said sequence).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Sumita with Linden reference by applying morphemic analysis techniques to similar items for generating an item list of morphological continuity because both references are directed to filtering items and selecting similar items, including program names, to users, and the combined reference would have allowed the filtering system more accurately to select similar items or programs to users.

Linden further teaches "producing said associated items as at least part of said generated sequence, said sequence thereby having a said morphological continuity, wherein said descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists" (See Fig. 6 and col. 8, lines 1-12 wherein Linden's popular titles are rated 1 to 5 in Bad/1, Not for me/2 to Love it/5 pairs and further, the selected similar items list is displayed is equivalent to Applicant's producing said associated items as at least part of said generated sequence, said sequence thereby having a said morphological continuity, wherein said descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists).

As per claims 25-29, Linden further teaches "the items are music titles" (See Fig. 6 the combining display of book titles from book category and music recommendations suggest the teaching of the items are music titles when music program is selected is equivalent to Applicant's the items are music titles).

As per claims 32-35, Sumita further teaches "morphological continuity is a morphing process along the items of said sequence" (See Fig. 6 and col. 6, lines 23-45 wherein Sumita's morphemic analysis was conducted on similar items to calculate the similarity value of a similar item against to those in the profile is equivalent to Applicant's morphological continuity is a morphing process along the items of said sequence).

As per claim 36, Linden further teaches "sequence-generating step comprises transforming said at least one of said values into unary constraints in terms of constraint satisfaction programming techniques" (See col. 14, Table 2 and line 64 – col. 15, line 4 wherein Linden's rating values 1, 2, ...5 are unary operated in the weight formula is equivalent to Applicant's sequence-generating step comprises transforming said at least one of said values into unary constraints in terms of constraint satisfaction programming techniques).

As per claim 37, Linden teaches "sequence-generating step further comprises subjecting said unary constraints to a processing of variables domain reduction" (See Fig. 2 wherein Linden's the weighting step is an option step is equivalent to Applicant's

sequence-generating step further comprises subjecting said unary constraints to a processing of variables domain reduction).

Response to Arguments

6. The Applicant's arguments filed on January 21, 2005have been considered but they are moot on new grounds of rejection.

7. The prior art made of record

A. U.S. Patent 6,266,649

B. U.S. Patent 6,581,207

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

C. U.S. Publication 2002/0082901

D. U.S. Patent 5,616,876

E. U.S. Patent 5,969,283

F. U.S. Patent 6,678,680

G. U.S. Patent 6,728,706

H. U.S. Publication 2003/0164844

Conclusions

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is 571-272-4114. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If at tempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-252-2100.

Kuen S. Lu
Patent Examiner
April 2, 2005

Luke Wassum
Primary Examiner
April 2, 2005